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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,893	07/25/2003	Eric C. Hannah	42P12034D2	3477

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EXAMINER
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PHAN, TRONG Q

ART UNIT	PAPER NUMBER
2827	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	Application No. 10/627,893	Applicant(s) HANNAH ET AL.	
	Examiner TRONG PHAN	Art Unit 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 and 49-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-25, 27 and 29-48 is/are rejected.
- 7) ☒ Claim(s) 26 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 0406.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: w/d of final w/n NF reg

### DETAILED ACTION

In view of the telephone interview of 4/12/06 between Mr. Paul Steiner, Reg. 41,326, and Examiner Trong Phan, the Final office action of 4/3/06, has been withdrawn because Applicant has not amended any of original claims.

A new non-final office action has been set forth as below:

#### *Drawings*

1. The drawings were received on 1/13/06. These drawings are acceptable.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature as recited in claims 19-20 (Fig. 1 does not show any amplifier), 26 (Fig. 2 does not show any thin conductive interlayer to backwards bias P-N junction 211), 28 and 44 (Fig. 2 does not show any transparent layer) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claim 18 is objected to because of the following informalities:

Claim 18 should further provides a means/circuit for the first and second currents to be measured. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 18 and 21 are, insofar as understood, rejected under 35 U.S.C. 102(b) as being anticipated by Skelly, 3,573,753.

Skelly, 3,573,753, discloses in Fig. 5 a data storage medium to read out digital bit of data information (see lines 1-10, column 1) comprising:  
a volumn of material comprising: dielectric layer 11 of polymer film (see lines 29-45, column 3) and bombardment induced conductive layer 12;  
first electrode 13 (see lines 10-17, column 3);  
second conductive layer 33 (see lines 27-29, column 5);

gold electrode layer 35 (see line 5, column 3 and line 35, column 5) which is read on the reference conductor;

electron beam source (see lines 11 and 63-66, column 1);

current sensor 37;

wherein: readout of recorded information from the storage medium is effected by a measurement of current induced between electrodes 33 and 35 (see lines 60-64, column 5).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19-20 are, insofar as understood, rejected under 35 U.S.C. 103(a) as being unpatentable over Skelly, 3,573,753, in view of Naji, 6,455,612.

What is not shown in Skelly, 3,573,753, the amplifier.

Naji, 6,455,612, discloses in Fig. 1 the use of current conveyor 55 which can include any other devices such as current sensor or current sense amplifier (see lines 37-40, column 3) in a memory device.

It would have been obvious under 35 USC 103(a) to one of ordinary skill in the art at the time of the present invention was made to utilize the current conveyor/current sensor/current sense amplifier 55 in Fig. 1 of Naji, 6,455,612, for the current sensor 37

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in Fig. 5 of Naji, 6,455,612, for amplifying the induced currents in electrodes 33 and 35 in Fig. 5 of Skelly, 3,573,753.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 22-25, 27, 29-33 and 43-48 are, insofar as understood, rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., 5,118,192, in view of Salgo, 3,936,690, and Skelly, 3,573,753.

**Regarding claims 32-33 and 47-48:**

Chen et al., 5,118,192, discloses in Fig. 4 a data storage system comprising:  
controller 43;  
processor 44;  
display 45;  
data storage device 47;  
communication channel 48 which is read on the system bus.

**Regarding claims 31 and 46:**

What is not shown in Chen et al., 5,118,192, is the data storage device as recited in claims 31 and 46.

Salgo, 3,936,690, discloses in Fig. 1 a data storage device comprising: cylindrical glass envelope 22 which is read on the enclosure; electron beam control portion 32

which is read on the electron beam source; Langmuir film of thin film polymer 67 as a memory storage medium (see lines 58-62, column 4) which can be cross-linked by high intensity electron beam (see lines 58-62, column 2 and lines 28-30, column 3); and photo-detectors (see claim 31).

It would have been obvious under 35 USC 103(a) to one of ordinary skill in the art at the time of the invention was made to utilize the data storage device in Fig. 1 of Salgo, 3,936,690, for the data storage device 47 in Fig. 4 of Chen et al., 5,118,192, for the purpose of using electron beam to store and retrieval of information by selectively alternating the properties of the Langmuir thin film (see lines 1-16, column 1 of Salgo, 3,936,690).

**Regarding claims 22-25, 27, 29-30 and 43-45:**

What is not shown in Chen et al., 5,118,192, which is modified by Salgo, 3,936,690, is the apparatus to read a bit of data as recited in claims 22-25, 27, 29-30 and 43-45.

Skelly, 3,573,753, discloses in Fig. 4 a data storage medium to read out digital bit of data information (see lines 1-10, column 1) comprising:  
a column of material comprising: dielectric layer 11 of polymer film (see lines 29-45, column 3) and bombardment induced conductive layer 12;  
p-type region 29 and n-type region 30 (see lines 24-25, column 5), inherently can be direct band semiconductor layers since Skelly, 3,573,753, is not limited to a specific semiconductor layer, which are read on the P-N junction;  
first electrode 13 (see lines 10-17, column 3);

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gold electrode layer 35 (see line 5, column 3 and line 35, column 5) which is read on the second conductive material as recited in claim 43;

electron beam source (see lines 11 and 63-66, column 1).

It would have been obvious under 35 USC 103(a) to one of ordinary skill in the art at the time of the invention was made to utilize the data storage medium in Fig. 4 of Skelly, 3,573,753, for the Langmuir film 67 in Fig. 1 of Salgo, 3,936,690, which is used to modified for Fig. 4 of Chen et al., 5,118,192, for the purpose of providing a development free data storage device susceptible to nondestructive electron beam readout (see lines 32-35, column 1 of Skelly, 3,573,753).

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 34-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Magnitski et al., 6,819,649.

Magnitski et al., 6,819,649, discloses in Fig. 2 an optical information storage device comprising:

a pair of transparent electrodes 202 and 203;

electrominescent layer 202 of polymer (see lines 27-45, column 5);

as shown in Fig. 4 is the electroluminescence intensity;



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information recording is done by a focused laser beam (see lines 27-37, column 1 and lines 3-7, column 7).

### ***Double Patenting***

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical; but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 22-25, 27, 29-30, 43 and 45 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S.

Patent No. 6,643,161. Although the conflicting claims are not identical, they are not patentably distinct from each other because: a volume of material, as recited in claims 22, 27 and 43 of the present invention, which is read on a first volume of polymer as recited in claims 1-15 of U.S. Patent No. 6,643,161; a P-N junction, as recited in claims 22 and 27 of the present invention, which is read on a second volume of polymer as recited in claims 1-15 of U.S. Patent No. 6,643,161; the apparatus as recited in claims

1-15 of U.S. Patent No. 6,643,161, is obviously included a photo detector for the amplifier as recited in claim 15 such as the photo detector as recited in claims 27 and 43 of the present invention.

***Response to Arguments***

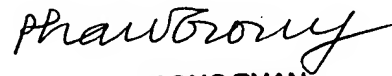
15. Applicant's arguments filed on 1/13/06 have been fully considered and are persuasive. Therefore, the last office action of 10/14/05 has been withdrawn.

However, in view of Applicant's amendments and the newly discovered prior arts, a new non-Final office action has been set forth as above.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRONG PHAN whose telephone number is (571) 272-1794. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AMIR ZARABIAN can be reached on (571)272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**TRONG PHAN**  
**PRIMARY EXAMINER**